WHAT IS CLAIMED IS:

1. A rotary induction machine comprising:

a cylindrical stator;

a rotor axially rotatably positioned in the center of said stator;

rotor windings integral to said rotor;

a three-phase energy winding integral to said stator and magnetically coupled to said rotor windings;

a first three-phase auxiliary winding integral to said stator and magnetically coupled to said rotor windings and electrically isolated from said energy winding, said three-phase auxiliary winding comprising three branch windings electrically coupled forming three-phase electrical terminals;

a first capacitor electrically coupled across each of said three-phase electrical terminals;

a second capacitor coupled with a first branch switch across a portion of a first one of said three branch windings; and

a control circuit for gating said first branch switch in response to parameters of a first voltage corresponding to a first selected branch winding and parameters of a voltage and a current corresponding to said energy winding.

2. The rotary induction machine of claim 1, wherein a third capacitor is coupled with a second branch switch across a portion of a second one of said three branch windings, said second branch switch gated by said control circuit in response to parameters of a second voltage corresponding to a second selected branch winding and said parameters of said voltage and current corresponding to said energy winding.

3. The rotary induction machine of claim 2, wherein a fourth capacitor is coupled with a third branch switch across a portion of a third one of said three branch windings, said third branch switch gated by said control circuit in response to parameters of a third voltage corresponding to a third selected branch winding and said parameters of said voltage and current corresponding to said energy winding.

4. The rotary induction machine of claim 3, wherein said second, third and fourth capacitors are not equal.

5. The rotary induction machine of claim 1, wherein said first voltage corresponds to the voltage across said second capacitor.

6. The rotary induction machine of claim 1, wherein said parameters of said voltage of said energy winding comprise the output voltage amplitude across a phase of said energy winding supplying a load.

7. The rotary induction machine of claim 1, wherein said parameters of said current of said energy winding comprise the output current amplitude in a phase of said energy winding supplying a load across a phase said energy winding.

8. The rotary induction machine of claim 1, wherein said parameters of said voltage and current of said energy winding comprise the phase relationship of said voltage and said current of said energy winding resulting from a load across said phase of said energy winding.

9. The rotary induction machine of claim 5, wherein said parameter of said first voltage corresponds to a measure of the zero crossing time of said first voltage.

10. The rotary induction machine of claim 1, where said branch switch is gated on based on a first value of said parameter of said first voltage and gated off based on a second value of said parameter of said first voltage.

11. The rotary induction machine of claim 1, wherein said branch switch is an electronic switch operable to conduct alternating current (AC) when gated on.

12. The rotary induction machine of claim 1, wherein said induction machine further comprises:

a second three-phase auxiliary winding integral to said stator and magnetically coupled to said rotor windings and electrically isolated from said energy winding, said second three-phase auxiliary winding electrically isolated from and magnetically coupled to said first auxiliary winding, said second auxiliary winding comprising three branch windings electrically coupled forming three-phase electrical terminals;

a fifth capacitor electrically coupled across each of said three-phase electrical terminals of said second auxiliary winding;

a sixth capacitor coupled with a fourth branch switch across a portion of a first one of said three branch windings of said second auxiliary winding; and

control signals from said control circuit gating said fourth branch switch in response to parameters of a fourth branch voltage of said second auxiliary winding and said parameters of said voltage and said current of said energy winding.

13. A rotary induction machine comprising:

a cylindrical stator;

a rotor axially and rotatably disposed in the center of said stator;

rotor windings integral to said rotor;

an energy winding integral to said stator and magnetically coupled to said rotor windings;

an auxiliary winding integral to said stator and magnetically coupled to said rotor windings and electrically isolated from said energy winding;

an energy storage device coupled with a branch switch across a portion of said auxiliary winding; and

a control circuit for gating said branch switch in response to parameters of a voltage corresponding to said auxiliary winding and parameters of a voltage and a current corresponding to said energy winding.

14. A rotary induction machine comprising:

a stator and rotor axially disposed in the center of said stator;

rotor windings integral to said rotor;

a three-phase n energy winding integral to said stator and magnetically coupled to said rotor windings;

a three-phase auxiliary winding integral to said stator and magnetically coupled to said rotor windings and electrically isolated from said energy winding, said three-phase auxiliary winding comprising three branch windings electrically coupled forming three-phase electrical terminals;

a first capacitance electrically coupled across each of said three-phase electrical terminals;

a first switched winding integral to a first phase of said energy winding and coupled with a first branch switch across a portion of said first capacitance corresponding to said first energy phase; and

a control circuit for gating said first branch switch in response to parameters of a first voltage corresponding to a first selected branch winding and parameters a voltage and a current corresponding to said energy winding.

15. The rotary induction machine of claim 14, wherein a second switched winding integral to a second phase of said energy winding is coupled with a second branch switch across a portion of a second capacitance corresponding to said second energy phase, said second branch switch gated by said control circuit in response to a second voltage corresponding to a second selected branch winding and said voltage and current corresponding to said energy winding.

16. The rotary induction machine of claim 15, wherein a third switched winding integral to a third phase of said energy winding is coupled with a third branch switch across a portion of a third capacitance corresponding to said third energy phase, said third branch switch gated by said control circuit in response to a third voltage corresponding to a third selected branch winding and said voltage and current corresponding to said energy winding.